

NETWORKS

FAQ

Q What are the pros and cons of powerline networking?

A Powerline networking uses the existing electrical wiring around your house to create a connection between wired network devices, without requiring you to install dedicated network cabling. Other advantages include a connection that's generally more reliable than WiFi and usually faster. Furthermore, distances can be much greater than wireless signals.

However, there are some disadvantages. Different standards and speeds are used by different manufacturers, so there's no guarantee of compatibility. Also, the actual transfer rates are much slower than the claimed speeds of 85Mbit/s or 200Mbit/s. Finally, it's inadvisable to plug adaptors into multiway sockets, which means that each one uses up a precious wall socket.

Luckily, Solwise's NET-PL-200AV-PIGGY adaptor (above right) has a mains pass-through, so you can use the socket for another electrical device or a multiway adaptor.

David Ludlow
Editor

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ENGENIUS ESR-9710 Wireless-N Gigabit Router

★★★★

£109 inc VAT
From www.solwise.co.uk

EnGenius isn't a well-known brand in the UK, but is gaining recognition thanks to its distributor Solwise. The ESR-9710 is a Draft-N wireless router that is compatible with the latest Draft 2.0 specification, which means theoretically better compatibility with Draft-N kit from other manufacturers.

It doesn't have a built-in ADSL modem, so it is best suited to those who have cable broadband. Usefully, though, it has a four-port gigabit Ethernet switch and three removable antennas, which could easily be replaced by high-gain versions.

The router has a handy push-button for enabling WiFi Protected Setup (WPS). It's similar to Buffalo's One-Touch Secure System, which we've found very convenient for automatically setting up a secure wireless connection. Unfortunately, when we tested this with EnGenius's EUB-9701EXT USB Draft-N adaptor (which costs £54 from Solwise), we found no button in the adaptor's software. Instead, we tried the WPS PIN mode, which involves keying in a number printed on the adaptor to establish a connection, but this refused to work. Eventually, we settled for manually configuring a WPA2 password, which was a simple process.

Oddly, there was no CD-based setup wizard to help you connect to the router and configure settings. Fortunately, the manual includes the default IP address, username and password, which gave us quick access to the router's web interface. This has an internet connection wizard that does the job, though.



The wizard asks for some security settings and offers choices of Good, Better or Best security modes such as WEP, WPA or WPA2 encryption.

Browse the rest of the menus, and you'll find the usual UPnP support, plus Stream Engine QoS and a wireless traffic prioritisation system. We particularly liked the website-filtering capabilities. Instead of creating a simple blacklist of URLs, you can apply policies that determine which sites each computer is allowed to access. It's possible to apply schedules to policies and also use them to log sites being viewed or block access completely to any sites except those on your allowed list.

The ESR-9710's performance was excellent. With our Centrino laptop, the router managed 17.86Mbit/s at 1m, 19.21Mbit/s at 15m and an amazing 10.33Mbit/s at 25m. Switching to the EUB-9701EXT adaptor, transfer rates were boosted to 61.46Mbit/s at 1m, 45.15Mbit/s at 15m and 16.5Mbit/s at 25m.

The ESR-9710 is a fast Draft-N router that's packed with features, but it's expensive. Linksys's WAG325N (see 'Also consider...' below) is nearly half the price, has an ADSL2+ modem and only lacks a gigabit Ethernet switch. It's much better value.

Mark Forbes

SUMMARY

- ✓ Good performance
- ✗ No CD setup
- ✗ Expensive

ADSL2+ WIRELESS ROUTER Draft 802.11n (300Mbit/s), 4x 10/100/1000Mbit/s LAN ports, 1x WAN port, UPnP, QoS, WPA2, WPS. Power consumption 7W
PART CODE 6606A2353080
DETAILS www.engeniustech.com/datacom

PERFORMANCE (see page 66)



Also consider...

BUFFALO WBMR-G125

★★★★★

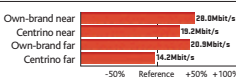
£49 inc VAT
From www.redstore.com

COMPUTER SHOPPER
BEST BUY

It may be 802.11g rather than Draft-N, but Buffalo's WBMR-G125 provides fantastic speeds for a very low price. It's also simple to configure, taking just a few minutes. Buffalo's CardBus adaptor, which costs just £18 extra, will improve your speeds even further. Its throughput at 25m also rivals some of the more expensive Draft-N routers.



WIRELESS ROUTER 802.11g (125Mbit/s), 4x 10/100 Ethernet ports, WAN port (ADSL2+ modem), UPnP, QoS
PART CODE WBMR-G125
DETAILS www.buffalotech.com
FULL REVIEW Nov 2007



LINKSYS WAG325N Wireless-N ADSL Gateway

★★★★★

£60 inc VAT
From www.ebuyer.com

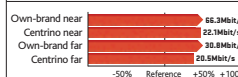
COMPUTER SHOPPER
BEST BUY

PRICE CUT!

Linksys's WAG325N Wireless-N ADSL Gateway managed the fastest transfer rates we've ever seen from wireless kit in our tests, and its range was excellent, too. Centrino performance was equally impressive, and we had no trouble connecting at 25m. This wireless ADSL router was simple to set up and configure, and is excellent value.



WIRELESS ADSL ROUTER Draft 802.11n (300Mbit/s), 4x 10/100 Ethernet ports, WAN port (ADSL2+ modem), UPnP, QoS
PART CODE WAG325N
DETAILS www-uk.linksys.com
FULL REVIEW Sep 2007



SOLWISE NET-PL-200AV- PIGGY

★★★★★

£55 inc VAT

From www.solwise.co.uk

Until now, the big problem with powerline networking has been that each plug uses up a wall socket, because they cannot be plugged into multiway adaptors if you want the best performance. Solwise's new HomePlug AV-compatible adaptors have a pass-through that allows you to plug any device, including a multiway adaptor, into the socket on the front.

Another feature we've not seen on previous HomePlug devices is a button on the front of each adaptor. Solwise calls this SimpleConnect, and it aims to make powerline networking even easier.

One of the pitfalls of using mains wiring is that your neighbours' wiring might be connected to yours – especially in a block of flats. To overcome this, HomePlug adaptors support encryption, but this has to be enabled and configured using software. SimpleConnect lets you create a secure, encrypted connection between two adaptors simply by pressing a button.

As long as buttons are pressed within two minutes of each other, a connection is established using 128-bit AES encryption. You can add extra adaptors later without resetting the whole HomePlug AV network. Useful status LEDs let you know when a secure connection exists.

Performance was very good in our tests. The adaptors managed a throughput of 69.91 Mbit/s. This is considerably faster than D-Link's similar DHP-301 adaptors (*What's New, Shopper* 236),

which managed just under 60Mbit/s. Both speeds are still more than enough for watching two HD video streams simultaneously.

Each adaptor costs £55, which is a relatively high premium for mains pass-through and push-button security. If you're short of wall sockets, though, they're a good choice.

Jim Martin

SUMMARY

- ✓ Mains passthrough
- ✓ Good performance
- ✗ Expensive

POWERLINE NETWORK ADAPTOR
200Mbit/s HomePlug AV Ethernet adaptor.
Power consumption 3.5W per adaptor
PART CODE NET-PL-200AV-PIGGY
DETAILS www.solwise.co.uk

PERFORMANCE (see page 66)



SMC SMC7904WBRA-N bundle

★★★★★

£77 inc VAT

From www.broadbandstuff.co.uk

COMPUTER
SHOPPER
BUDGET BUY

SMC's ADSL router bundle comes with an SMCWUSBS-N2 USB adaptor. At just £77, it's an inexpensive way to set up a wireless network. There's no CD-based setup wizard, so you have to use the router's web-based management pages instead. This includes a basic setup wizard, but it only helps you configure your internet settings – not your wireless network – and you must enable security settings manually. Fortunately, this isn't too hard as the management page is fairly clear.

This router supports WPS push-button configuration. It works in a similar way to Buffalo's AOSS technology, transferring wireless network settings to compatible clients at the push of a button. Sadly, the bundled USB adaptor doesn't support this feature under Windows Vista. For this you need the SMCWUSBS-N adaptor, which is £23. However, WPS isn't any easier than using Windows' built-in wireless networking client and typing in your network password.

Performance with our Centrino laptop was very good. It managed 11.24Mbit/s at 25m, which indicates that it delivers a strong, reliable signal. The bundled USB adaptor was also very quick, managing 16.24Mbit/s at 25m. As this price you'd expect some features to have been cut, but you get all the usual features, including UPnP, port

forwarding and Dynamic DNS. The only option missing is QoS for prioritising network traffic. If you don't use a lot of VoIP, you'll not miss it, though.

This is a simple, inexpensive way to upgrade to a Draft-N wireless network. The USB adaptor is quick, and additional adaptors that support WPS under Vista are cheap. It can't match the features or power of Linksys's WAG325N (see 'Also consider...' left), but for those on a budget, it's a great choice.

David Ludlow

SUMMARY

- ✓ Good speed and coverage
- ✓ Inexpensive for a kit
- ✗ No WPS button on USB adaptor

ADSL WIRELESS ROUTER Draft 802.11n (300Mbit/s), 4x 10/100 LAN ports, 1x WAN port (ADSL2+ modem), UPnP. Power consumption 7W
PART CODE SMC7904WBRA-N
DETAILS www.smc.com

PERFORMANCE (see page 66)



CHOOSING A... VoIP Provider

Follow the steps to find your ideal specs

SERVICETYPE: PC

COST PER MONTH: Free

FREE CALLS: Other users only

STANDARD TELEPHONE CALLS: From around 1p per minute

Recommended minimum in grey

1 You need to choose the kind of service that best suits your needs. An application with the minimum specifications listed above requires a computer in order to work. This means you can install it on a notebook and carry it around with you, which is handy for travellers. These applications are available from Skype, Microsoft, Tiscali and Tesco. If you're looking for a replacement home phone, you need to sign up for a fixed VoIP line instead, such as those provided by Vonage and BT.

2 With an application on your PC, you can see when your friends are online and make free phone calls to users of the same service anywhere in the world. If you want to call a traditional landline, you can use a service such as SkypeOut, but you'll need to buy credits. Call costs vary between countries, so check the current pricing and pick the service that provides you with the best deal. Calls to most developed countries should cost around 1p per minute.

If you want to receive phone calls, you'll need to buy a telephone number with Skypeln, for example. There is usually a monthly charge.

3 A fixed VoIP service works like a traditional phone. A basic service costs around £8 per month, but you get a telephone number and free UK landline calls. You also get free VoIP calls to any user of the same service, although it's hard to tell who uses which service as you just dial normal telephone numbers and they give no indication of the service to which they belong. Pick the service that best fits your needs; if you make a lot of foreign calls, you should go with the one that offers the cheapest calls to the countries you call most often.

4 A fixed VoIP service should come with a telephone adaptor so you can use your existing telephone and answerphone with it. Look for an adaptor that also connects to your existing telephone line, so your friends can still call you without having to learn a new number. Your old line is also useful as a backup and for making emergency calls.